



WR File NR: CS4-02398CTCL@18
WR Doc ID: 4241229

State of Washington
Report of Examination for Water Right Change

PRIORITY DATE
June 30, 1868

WATER RIGHT NUMBER
Ecology Control Number: CS4-02398CTCL@18
Certificate Number: S4-84920-J

MAILING ADDRESS
Russell and Gladys Carlson
2910 Carlson Road
Yakima, WA 98903-9130

SITE ADDRESS (IF DIFFERENT)
East of Marks Road
Yakima, WA 98903

Total Quantity Authorized for Withdrawal or Diversion

DIVERSION RATE	UNITS	ANNUAL QUANTITY (AC-FT/YR)
0.31 ¹	CFS	52.46 ¹

Purpose

PURPOSE	DIVERSION RATE		UNITS	ANNUAL QUANTITY (AC-FT/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE		ADDITIVE	NON-ADDITIVE	
Irrigation of 30.5 acres	0.31 ¹		CFS	52.46 ¹		04/15 – 07/10

REMARKS

The subject right is the primary irrigation right.

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
30.5		n/a	

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Yakima	Bachelor Creek	Ahtanum Creek	37- Lower Yakima

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Surface Diversion S1	171210-24001	n/a	12 N.	17 E.	10	SE NW	46.54601	-120.68452

Datum: NAD83/WGS84

¹ When water is available in excess of that needed to satisfy all confirmed water rights both on and off the Yakama Reservation and any water needed to satisfy the Yakama Nation's minimum instream flow right for fish and other aquatic life, an additional 0.31 cfs, 18.41 acre-feet per year can be diverted.

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

171210-24001

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The SE¼NW¼ of Section 10, T. 12 N., R. 17 E.W.M., except right-of-way for Tampico Road (Parcel #171210-24001). Answer No. 70.

Proposed Works

Applicant is requesting a downstream move in point of diversion (POD) from Hatton Creek to a point within the SE¼NW¼ of Section 10 in T. 12 N., R. 17 E.W.M., located on Bachelor Creek. The applicant requested POD will be a shared diversion with change applications CS4-02398CTCL@16 and CS4-02698CTCL@17.

Water at the applicant-requested POD is diverted via a headgate on Bachelor Creek, then piped approximately 535 feet southeast from the diversion, underground, to a holding pond where the pump is located. The water supply system consists of a 25-horsepower electric motor on a centrifugal pump, pumping water through a 6-inch PVC intake pipe and distributed to the applicant's lands through a 4-inch PVC outlet pipe, irrigating by means of both wheel- and hand-lines. Applicant representative Steve Carlson stated that he uses wheel lines for the majority of the irrigated areas of the parcel, and handlines for corners and odd-shaped sections.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	Complete	Complete

Washington State Department of Ecology's (Ecology) findings as documented by this water right change decision are based on the Schedule of Water Rights presented in the Conditional Final Order, Subbasin No. 23, issued April 15, 2009 by the Yakima County Superior Court, and the current Acquavella Draft Schedule of Rights, which is periodically updated when changes are made by the Court. Ecology's decision is subject to any subsequent determination made by the Court, including the Final Decree in Department of Ecology v. Acquavella. Any changes to this water right made by the Court will be reflected on the final certificate of adjudicated water right, which will issue subsequent to entry of the Final Decree in Department of Ecology v. Acquavella.

Measurement of Water Use

How often must water use be measured?	Record the maximum rate of diversion: Weekly.
How often must water use data be reported to Ecology?	Annually (By January 31 of the following year).
What volume should be reported?	Total annual volume in acre-feet.
What rate should be reported?	Annual peak rate of withdrawal in gpm.

An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms to submit your water use data.

Provisions

Water Availability and Non-impairment

This appropriation may not initiate a call on upstream junior rights.

Department of Fish and Wildlife Requirement(s)

The intake(s) must be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). If you have questions about screening criteria, contact the Department of Fish and Wildlife at:

Department of Fish and Wildlife

Phone: (360) 902-2534

Attention: Habitat Program

Email: habitatprogram@dfw.wa.gov

600 Capitol Way N

Website:

Olympia, WA 98501-1091

<http://wdfw.wa.gov/conservation/habitat/planning/screening/>

For the Yakima Construction Shop, to obtain technical assistance for your project (509) 575-2104.

Easement and Right-of-Way

Where the water source and/or water transmission facilities are not wholly located upon land owned by the applicant, issuance of a water right change authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Schedule and Inspections

Ecology personnel, upon presentation of proper credentials, will have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices, and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find the change of water right as recommended will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER the requested change to a change in the point of diversion under Change Application No. CS4-02398CTCL@18, subject to existing rights and the provisions specified above.

Your Right To Appeal

This Decision may be appealed pursuant to RCW 34.05.514(3), RCW 90.03.210(2), and Pretrial Order No. 12 entered in *State of Washington, Department of Ecology v. James Acquavella, et al.*, Yakima County Superior Court No. 77-2-01484-5 (the general adjudication of surface water rights in the Yakima

River Basin). The person to whom this Decision is issued, if he or she wishes to file an appeal, must file the notice of appeal with the Yakima County Superior Court **within thirty (30) days of receipt of this Decision**. Appeals must be filed with the Superior Court Clerk's Office, Yakima County Superior Court, 128 North 2nd Street, Yakima WA 98901, RE: Yakima River Adjudication. Appeals must be served in accordance with Pretrial Order No. 12, Section III ("Appeals Procedures"). The content of the notice of appeal must conform to RCW 34.05.546. Specifically, the notice of appeal must include:

- The name and mailing address of the appellant;
- Name and address of the appellant's attorney, if any;
- The name and address of the Department of Ecology;
- The specific application number of the decision being appealed;
- A copy of the decision;
- A brief explanation of Ecology's decision;
- Identification of persons who were parties in any adjudicative proceedings that led to Ecology's decision;
- Facts that demonstrate the appellant is entitled to obtain judicial review;
- The appellant's reasons for believing that relief should be granted; and
- A request for relief, specifying the type and extent of relief requested.

The "parties of record" who must be served with copies of the notice of appeal under RCW 34.05.542(3) are limited to the applicant of the decision subject to appeal, Ecology and the Office of the Attorney General.

All others receiving notice of this Decision, who wish to file an appeal, must file the appeal with the Yakima County Superior Court **within thirty (30) days of the date the Order was mailed**. The appeal must be filed in the same manner as described above.

Please send a copy of your appeal to:

Thomas Perkow, Acting Section Manager
Water Resources Program Ecology Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903

Signed at Union Gap, Washington, this _____ day of _____, 2016.

Thomas Perkow, Acting Section Manager
Water Resources Program, Central Regional Office

To find laws and agency rules visit the Washington State Legislature Website: <http://www1.leg.wa.gov/CodeReviser>.

INVESTIGATOR'S REPORT

Tyler Roberts, Department of Ecology
Water Right Control Number CS4-02398CTCL@18
Certificate No. S4-84920-J
Court Claim No. 02398

BACKGROUND

On January 27, 2005, Russell Carlson filed an application with the Washington State Department of Ecology (Ecology) to change the point of diversion (POD) under Court Claim No. 02398 in *The State of Washington, Department of Ecology v. James J. Acquavella, et al.* The application was accepted and assigned Control No. CS4-02398CTCL@18. This report serves as the written findings of fact concerning Water Right Application No. CS4-02398CTCL@18.

This change in POD is being requested by the applicant and many other Subbasin 23 claimants because they are no longer using the PODs confirmed in the 1925 *Achepohl Decree*. Thus, the Court requested that the claimants apply to Ecology to seek authorization to change their PODs from the POD confirmed in the *Achepohl Decree* to the location currently in use. The application (and many others) were submitted to Ecology to satisfy the request of the Court. WAC 173-152-050(2)(b) allows Ecology to prioritize these applications ahead of other competing applications.

EXISTING Water Right Attributes

Water Right Owner:	Russell Carlson
Priority Date:	June 30, 1868
Place of Use	The SE¼NW¼ of Section 10, T. 12 N., R. 17 E.W.M., except right-of-way for Tampico Road (Parcel #171210-24001). Answer No. 70.

County	Waterbody	Tributary To	WRIA
Yakima	Bachelor Creek and Hatton Creek	Ahtanum Creek	37 - Lower Yakima

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Irrigation of 30.5 acres	0.31 ¹	CFS	52.46 ¹	April 15	July 10

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
S2	n/a	n/a	12 N.	17 E.	10	SW NW	n/a	n/a
S3	n/a	n/a	12 N.	17 E.	10	NW SW	n/a	n/a

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian; Datum in NAD83/WGS84.

¹ When water is available in excess of that needed to satisfy all confirmed water rights both on and off the Yakama Reservation and any water needed to satisfy the Yakama Nation's minimum instream flow right for fish and other aquatic life, an additional 0.31 cfs, 18.41 acre-feet per year can be diverted.

REQUESTED Water Right Attributes

Applicant Name:	Russell Carlson
Date of Application:	January 27, 2005
Place of Use	The SE¼NW¼ of Section 10, T. 12 N., R. 17 E.W.M., except right-of-way for Tampico Road (Parcel #171210-24001). Answer No. 70.

County	Waterbody	Tributary To	WRIA
Yakima	Bachelor Creek	Ahtanum Creek	37 - Lower Yakima

Purpose	Rate	Unit	Acre-feet/yr	Begin Season	End Season
Irrigation of 30.5 acres	0.31 ¹	CFS	52.46 ¹	April 15	July 10

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
S1	171210-24001	n/a	12 N.	17 E.	10	SE NW	46.54601	-120.6845

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian; Datum in NAD83/WGS84.

Legal Requirements for Requested Change

The following is a list of requirements that must be met prior to authorizing the proposed change in POD:

Public Notice

Public Notice of the application was given in the Yakima Herald-Republic on March 5 and 12, 2015.

No protests were filed against this application.

Consultation with the Department of Fish and Wildlife

Ahtanum change applications were presented to the Yakima River Basin Water Transfer Working Group (WTWG) during monthly meetings from February 26, 2007 through October 1, 2007. The Department of Fish and Wildlife participates in the WTWG. Ecology received an April 16, 2007 letter from the Department of Fish and Wildlife stating that their primary concern is that each respective water right holder and land owner complies with rules and regulation for the installation of fish screening devices in the State of Washington.

¹ When water is available in excess of that needed to satisfy all confirmed water rights both on and off the Yakama Reservation and any water needed to satisfy the Yakama Nation's minimum instream flow right for fish and other aquatic life, an additional 0.31 cfs, 18.41 acre-feet per year can be diverted.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met:

- It is a surface water right application for more than 1 cubic foot per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies.
- It is a groundwater right application for more than 2,250 gallons per minute.
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above.
- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA).
- It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

Water Resources Statutes and Case Law

Chapter 90.03 RCW

RCW 90.03.360 requires metering of all water users within fish critical basins. The Yakima River has been designated a fish critical basin. RCW 77.55.320, RCW 77.55.040, and RCW 77.55.070 require all diversions from surface waters of the state to be screened to protect fish.

RCW 90.03.380(1) provides that a water right that has been put to beneficial use may be changed. The POD, place of use (POU), and purpose of use may be changed if it would not result in harm or injury to other water rights.

The Washington Supreme Court has held that the Ecology, when processing an application for change or transfer of water right is required to make a tentative determination of the extent and validity of the right. This is necessary to establish whether a water right is eligible for change (*R.D. Merrill Co. v. PCHB*, 137 Wn.2d 118, 969 P.2d 458 (1999); *Okanogan Wilderness League v. Town of Twisp*, 133 Wn.2d 769, 947 P.2d 732 (1997)). It is not within Ecology's authority to adjudicate or make a final determination of the extent and validity of any water right or claim to a water right, only the Superior Court has such authority. Therefore, Ecology's tentative determination in this Report of Examination for Change of Water Right is based upon the rulings of the Yakima County Superior Court made thus far in the Subbasin No. 23 (Ahtanum Creek) proceedings, in *Department of Ecology v. Acquavella*, the Yakima River Basin water rights adjudication.

INVESTIGATION

On January 27, 2005, Russell Carlson filed an application with Ecology to change a POD under Court Claim No. 02398 in *The State of Washington, Department of Ecology v. James J. Acquavella, et al.* The

application was accepted and assigned Control No. CS4-02398CTCL@18. On March 10, 2015 the change application was assigned to permit writer Tyler Roberts.

On April 9, 2015, Roberts conducted a site visit with George Marshall of Ahtanum Irrigation District (AID) and applicant representative Steve Carlson. Details of the site visit are available in field notes taken by Roberts, and record the following elements of the change application:

- Location of the POD at N 46.54601 and W 120.68452 (taken by Roberts using a handheld GPS).
- 25-horsepower electric motor with a centrifugal pump.
- 6-inch PVC intake pipe.
- 4-inch PVC outlet pipe.
- Wheel- and hand-line irrigation equipment.
- Pasture is documented as the crop type present in April 2015.

A map depicting attributes of the water right is presented in Attachment 1. Please refer to Attachments 2A-2D for images of current diversion works and other pertinent elements.

Information from field notes obtained during this field visit, along with other sources of information, provided the basis for this investigation. These other sources include:

- Documentation submitted with the change application.
- Yakima River Basin Adjudication documentation.
- Applicable RCW and WAC chapters.
- Ecology records.
- Aerial photographs.
- Ecology's Geographic Information System (GIS) data.

Since the application was filed in 2005 there has been one change in ownership; the parcel that is the POU (171210-24001) was sold by Russell and Gladys Carlson to the Carlson Family Trust on January 14, 2010. The subject right is related two other change application currently on file with Ecology; CS4-02698CTCL@16, filed by Steve Carlson, and CS4-02398CTCL@17, also filed by Russell Carlson. These change applications are for land adjacent to the POU for the subject right. All three change applications are requesting to use the same POD on Bachelor Creek.

The property is located within the Ahtanum Creek Subbasin No. 23, approximately 15 miles upstream from the confluence of Ahtanum Creek and the Yakima River. Decades of development in the subbasin have resulted in large tracts of property being divided, subdivided, and transferred to new ownership. The division of land into smaller parcels has made the use of private irrigation ditches impractical or impossible in most cases. With the advancement of technology and new materials available, land owners and irrigators have gradually changed their irrigation practices from gravity fed surface diversions and ditches to pumps located on the owner's property and pressurized sprinkler systems. The change from gravity fed diversions to pressurized systems naturally resulted in a change in location of the POD, which in many cases went undocumented.

The Conditional Final Order (CFO) described the confirmed PODs as being within 1) the SW¼NW¼ of Section 10, and 2) the NW¼SW¼ of Section 10, T. 12 N., R. 17 E.W.M. The applicant proposes to change

the authorized location of the POD to its current, actual position, which is located in the SE¼NW¼ of Section 10, T. 12 N., R. 17 E.W.M. The new location is approximately 9.5 river-miles from the original POD on Hatton Creek.

The CFO confirms 0.31 cubic feet per second (cfs), 52.46 acre-feet per year (ac-ft/yr) for the irrigation of 30.5 acres with a June 30, 1868 priority date. The POU lies within the SE¼NW¼ of Section 10, T. 12 N., R. 17 E.W.M. When water is available in excess of that needed to satisfy all confirmed water rights both on and off the Yakama Reservation and any water needed to satisfy the Yakama Nation's minimum instream flow right for fish and other aquatic life, an additional 0.31 cfs, 18.41 acre-feet per year can be diverted.

The CFO includes a schedule of rights which describes the Court's findings for each surface water claim it confirmed within the Ahtanum Creek subbasin (Subbasin 23). Subsequent to its filing in 2009, the CFO was appealed. The CFO was remanded by the Washington Supreme Court to Yakima Superior Court in 2014.

Ecology is using the Court's schedule of rights for its analysis of potential detriment or injury to existing rights that could result from the proposed change of POD. The schedule of rights is periodically updated when changes are made by the Court.

History of Water Use

Legal History

There is a long history of legal actions concerning water rights in the Ahtanum Creek drainage. Water right claimants can be divided into two major groups which have historically asserted the right to use water on Ahtanum Creek:

- Property owners on non-tribal land north of the creek (northside users).
- Property owners and the Yakama Nation on land south of the creek (southside users).

At least six legal proceedings have influenced the allocation of water rights on Ahtanum Creek²:

1. 1855 Treaty with the Yakama Nation
2. 1897 *Benton v. Johncox*
3. 1908 "Code Agreement"
4. 1925 *State of Washington v. Annie Wiley Achepohl et al.*
5. 1947 *United States v. Ahtanum Irrigation District*
6. 1977 – Currently in progress; *State of Washington Department of Ecology v. James J. Acquavella, et al.*

² History taken from *Report of the Court Concerning the Water Rights for the Subbasin 23 (Ahtanum Creek) Volume 48 – Part 1*; "b. Legal History" pp. 36-39; Yakima County Superior Court Cause No. 77-2-01484-5; January 31, 2002.

State of Washington Department of Ecology v. James J. Acquavella, et al. (Acquavella)

The *Acquavella* adjudication began in 1977 and is still in progress at the time of this writing. *Acquavella* is an adjudication of all surface water rights and claims within the entire Yakima River drainage basin, which includes 31 subbasins. The Ahtanum Creek drainage basin is Subbasin No. 23. Ahtanum is the last of the 31 subbasin proceedings in need of completion before a final decree for *Acquavella* can be issued by the Superior Court.

Due to the complex legal history of the Ahtanum Subbasin No. 23, the court established four criteria that must be met when evaluating the validity of Ahtanum claims:

1. The claimant's predecessor must have been a signatory to the 1908 *Code Agreement*.
2. The claimant's predecessor must have participated in the 1925 *Achepohl* proceeding and must have provided evidence of compliance with state law.
3. The claimant, or their predecessor, must have filed an answer in *Ahtanum II*.
4. The claimant, or their predecessor, must have shown that water was beneficially used on the property after 1964, when *United States v. Ahtanum Irrigation District Civil Cause No. 312* was finalized by the *Pope Decree*.

The court concluded that it needed to adhere to both the 1964 *Pope Decree* and the 1925 *Achepohl* proceeding. Keeping that in mind, when the court evaluated claims where *Achepohl* certificates authorized more irrigated acreage than found in the *Pope Decree*, the court awarded a junior water right for the difference, provided there was no evidence of abandonment or relinquishment. A junior right, in this case, had the same priority date as the senior portion of the right and, as stated in the Report of the Court, "...can only be exercised when the flow in Ahtanum Creek exceeds 62.59 cubic feet per second and no uses, including potential storage, are being made of the excess by water right holders on the reservation."

During the *Acquavella* proceedings the legality of many of the current PODs was called into question. Many claimants were no longer using the PODs confirmed in *Achepohl*. In many cases landowners (or their predecessors) had switched from gravity-flow ditches to pumps placed directly into the creek on or adjacent to the property being irrigated. In many cases, the landowners (or their predecessors) had not fulfilled the legal requirements to change a POD under RCW 90.03.380. Thus, the Court requested that the claimants apply to Ecology to seek authorization to change their PODs from the historic point to the location currently in use. This application and many others were submitted to Ecology to satisfy this request of the Court.

Ahtanum Creek Subbasin Description

The Ahtanum Creek system is complex. According to the June 2005 Final Programmatic Environmental Impact Statement for the Ahtanum Creek Watershed Restoration Program, the Ahtanum Creek Subbasin can be described as three different reaches. The upper reach consists of the North and South Forks of Ahtanum Creek which flow to their confluence near Tampico. The upper reach flows through a combination of managed forest land (North Fork) and tribal land (South Fork). The middle reach begins at the confluence of the North and South Forks and flows to Wiley City. The lower reach starts at Wiley City and flows to confluence with the Yakima River. The majority of irrigation occurs in the middle and lower reaches of the creek, where pasture and hay are the predominant irrigated crops. The middle and

lower reaches of Ahtanum Creek are made up of the main channel and two regulated side channels known as Bachelor Creek and Hatton Creek.

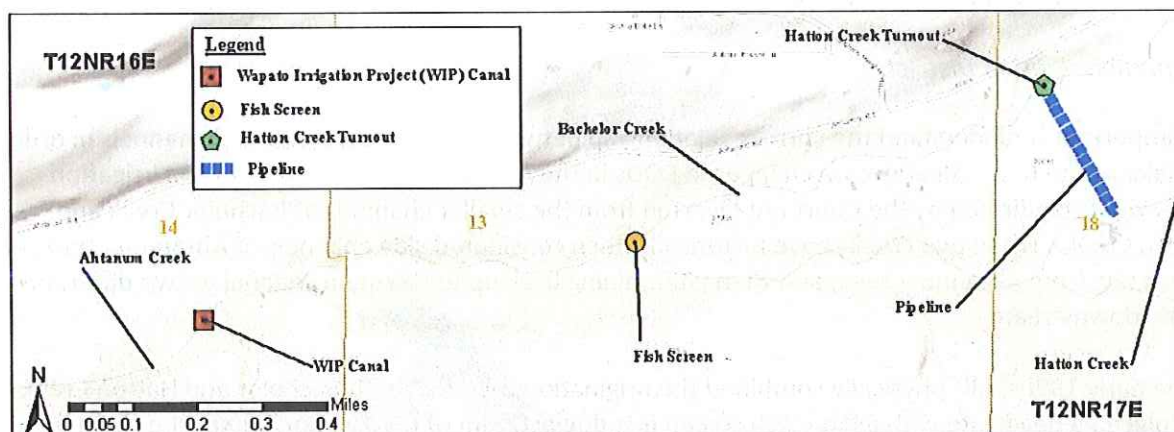
Ahtanum Irrigation District

It is important to understand the current relationship between the above mentioned channels in order to make sound determinations on changes in PODs in the Ahtanum system. Many of the irrigation water rights confirmed by the Court are diverted from the smaller channels of Bachelor Creek and Hatton Creek. These two creeks have historically been considered side channels of Ahtanum Creek, first originating from Ahtanum Creek, and then later joining back up to the main channel at two different points downstream.

In the early 1990s, AID physically combined the origination points of both Bachelor and Hatton Creeks and placed a head gate with a large fish screen just downstream of the location where the channel splits. The fish screen is located approximately 2,500 feet east and 2,350 feet south of the northwest corner of Section 13, being within the SW¼NW¼ of Section 13, T. 12 N., R. 16 E.W.M. (see Figure 1). This point is located approximately 3,500 feet downstream from the Wapato Irrigation Project (WIP) canal, which is the POD used for the water users on the Yakama Reservation. Once water flows through the fish screen, it continues through a common channel for approximately 3,800 feet, where there is a continuous-head orifice turnout, which serves as the origination point of Hatton Creek. This point is located approximately 200 feet east and 1,400 feet south from the northwest corner of Section 18, being within the SW¼NW¼ of Section 18, T. 12 N., R. 17 E.W.M. From this point water is diverted through a pipeline, in a southeasterly direction, approximately 700-800 feet under a pasture where it is discharged into the natural flow channel of Hatton Creek.

Fish passage barriers are located on the lower reaches of Hatton and Bachelor Creeks just upstream from Ahtanum Creek. Although the fish passage barriers exist, Washington State Department of Fish and Wildlife Instream Flow biologist Paul LaRiviere found many fish species present in both Bachelor and Hatton Creeks.

Figure 1: Fish screen and origination point overview



Property owners within the district are the individual water right holders with AID managing the distribution of the water to the individual PODs only. AID manages the distribution of water among Bachelor, Hatton, and Ahtanum Creeks at the headgate, regulating the flow among the three creeks. AID also manages the diversions of its patrons along the creeks to ensure the priority system is followed. To do this, AID opens up the common channel for Bachelor and Hatton Creeks and allows approximately 35-40 cfs to flow through the fish screen. When the water reaches the origination point of Hatton Creek, a continuous-head orifice turnout is opened to allow approximately half the total into Hatton Creek. The other half continues to flow down Bachelor Creek. Later in the season when the flow in the creeks becomes low, usually before reaching the July 10 cut-off, the AID stream patrolman begins to regulate based on the priority system established in the *Achepohl* proceeding.

Proposed Use

The applicant is requesting a downstream move in POD across streams from Hatton Creek to a point within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 10 in T. 12 N., R. 17 E.W.M., located on Bachelor Creek. The applicant-requested POD will be a shared diversion with change applications CS4-02398CTCL@16 and CS4-02698CTCL@17.

Water at the applicant-requested POD is diverted via a headgate on Bachelor Creek, then piped approximately 535 feet southeast from the diversion, underground, to a holding pond where the pump is located. The water supply system consists of a 25-horsepower electric motor on a centrifugal pump, pumping water through a 6-inch PVC intake pipe and distributed to the applicant's lands through a 4-inch PVC outlet pipe, irrigating by means of both wheel- and hand-lines. Applicant representative Steve Carlson stated that he uses wheel lines for the majority of the irrigated areas of the parcel, and handlines for corners and odd-shaped sections. Pasture was observed as the crop type in April 2015.

Other Rights Appurtenant to the Place of Use

There is one ground water application appurtenant to the POU:

- Groundwater application G4-30474, filed by Russ Carlson with a priority date November 29, 1990, for 800 gpm and 80 acres of irrigation during irrigation season. No annual quantity was specified on the application.

There are no other water rights appurtenant to the POU which can be used for irrigation of the property.

The extent of the POU for the subject right overlaps the POU for the following two water rights:

- **S4-84352-J** is a surface water right for the Yakima-Tieton Irrigation District, priority date May 10, 1905, for irrigation of 27,900 acres, domestic (cistern filling), spraying, frost protection, and power generation (April 1 through September 30). The source is the Tieton River.

Quantity: 300 cubic feet per second from April 1 through 30; 347 cubic feet per second from May 1 through August 31; 336 cubic feet per second from September 1 through 30; 102,409 acre-feet per year. October is authorized as part of the irrigation season.

- **S4-84360-J** is a surface water right for the Yakima-Tieton Irrigation District, priority date May 10, 1905, for domestic (cistern filling), spraying, and canal flushing (March 1 through March 31); domestic (cistern filling), spraying, canal flushing, and irrigation of 27,900 acres (April 1 through July 31). The source is North Fork of Cowiche Creek.

Quantity: 20 cubic feet per second, 908 acre-feet per year.

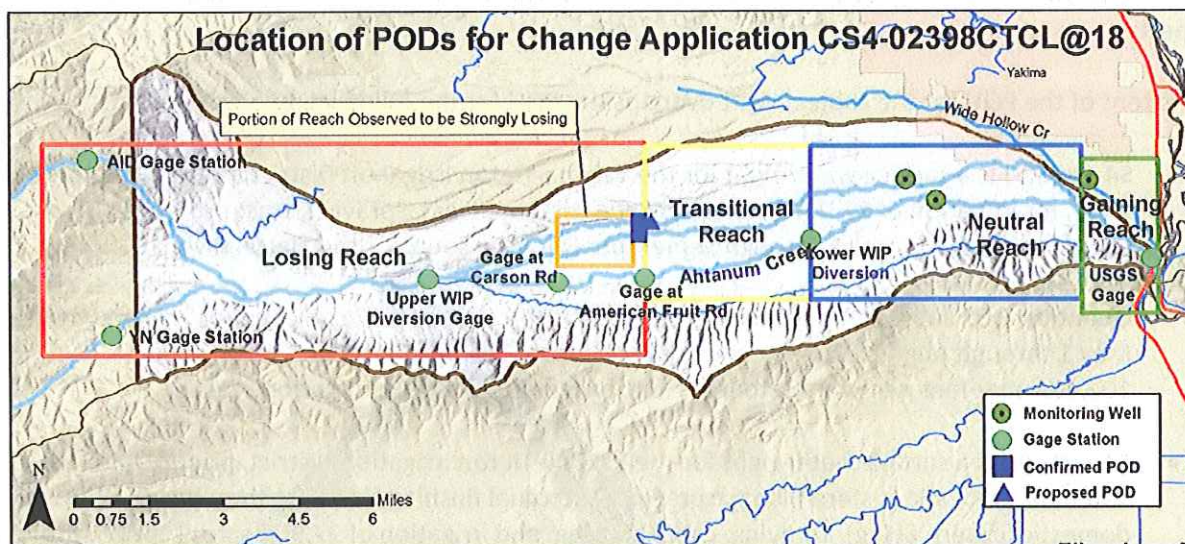
Hydrologic/Hydrogeologic Evaluation

For the purpose of this evaluation, the region of interest extends from the Yakama Nation and Ahtanum Irrigation District gaging stations (Figure 2) to the confluence of Ahtanum Creek with the Yakima River. Previous studies (Foxworthy, 1962; Golder, 2004) have established general classifications regarding the losing/gaining tendency for each of the stream reaches in the Ahtanum Creek watershed. Briefly, a losing reach indicates that the stream has a tendency to discharge water to the aquifer over a given reach. A gaining reach occurs when groundwater is adding water to a creek over a specific reach.

The tendency for each reach to lose or gain was determined by quantifying differences in flows between measurement points, after accounting for diversions. The primary measurement points were on Ahtanum Creek at the Yakama Nation Gage Station, the Ahtanum Irrigation District Gage Station, Wapato Irrigation Project Diversion, Carson Road, American Fruit Road, and the USGS Gage at Union Gap (Figure 2). Limited or incomplete data is available for each of these gages.

Golder (2004) compiled and compared four years of available data. Golder's study indicated a consistent losing reach between the North Fork and South Fork gage stations and American Fruit Road. Between Carson Road and American Fruit Road, a loss of 2 cfs was observed during the summer and fall (Figure 2).

Figure 2: Hydrologic properties of Ahtanum Creek system, March through July.



Limited gage data is available on Bachelor Creek and Hatton Creeks; George Marshall (2015, via personal communication) indicated that the reach between Carson Road and Marks Road on Bachelor Creek and Hatton Creeks took longer to “fill” early in the irrigation season, than other areas in the stream reach (orange box, Figure 2). Based on shared depositional history and geologic environment, the tendency for Bachelor Creek and Hatton Creeks to gain or lose water over a given reach is expected to be similar to Ahtanum Creek.

During the irrigation season, Ahtanum Creek transitions from losing to neutral/gaining, east of Marks Road. Golder (2004) indicated that much of the lower portion of the watershed is a neutral reach, however Foxworthy (1962) suggested that the gaining portion may extend further west. The actual timing and location of the transition from losing to neutral is not fixed. It’s dependent on creek flow (and stage or elevation) relative to the groundwater levels.

In the reach between American Fruit Road Gage and the lower WIP diversion, Golder (2004) identified measured stream gains in the spring and losses in the summer. The neutral and gaining reaches were not extensively discussed in Golder (2004). However, monitoring well data compiled by Foxworthy (1962) provides information regarding the seasonal depth to groundwater in the alluvial aquifer. Alluvial aquifer wells located in the neutral reach have a hydrograph with a slight seasonal variation. For example, the monitoring wells in the neutral reach (circle with a dot, Figure 2) had a 2 to 3 feet variation over the year. Groundwater depth ranged from 2.5 to 5 feet below ground surface (bgs). The monitoring well located in the gaining reach (circle with a dot, Figure 2) had a groundwater depth of approximately 2 feet bgs and +/-1 foot of variation. The similarity between stream and groundwater elevation support the observation that the eastern portion of the watershed is a gaining reach.

Impairment Considerations

A table of intervening water rights between the POD confirmed by the Court and the applicant proposed POD is listed in Table 1 below.

Table 1: Intervening Water Rights

Water Right Document No.	Application Change No.	Priority Date	Current Source	Proposed Source
S4-84815-J	CS4-02398CTCL@33	June 30, 1898	Ahtanum Creek	Bachelor Creek
S4-84817-J	N/A	June 30, 1891	Ahtanum Creek and Hatton Creek	N/A
S4-84818-J	N/A	June 30, 1891	Ahtanum Creek and Hatton Creek	N/A
S4-84819-J	N/A	June 30, 1891	Ahtanum Creek and Hatton Creek	N/A
S4-84820-J	CS4-ADJ20VOL3P328	June 30, 1870	Bachelor Creek	Ahtanum Creek
S4-84821-J	CS4-02398CTCL@21	June 30, 1888	Hatton Creek and Ahtanum Creek	Ahtanum Creek
S4-84822-J	CS4-02398CTCL@34	June 30, 1852	Ahtanum Creek	Bachelor Creek
S4-84823-J	CS4-02398CTCL@35	June 30, 1852	Bachelor Creek	Ahtanum Creek
S4-84824-J	N/A	June 30, 1888	Bachelor Creek and Hatton Creek	N/A
S4-84825-J	CS4-02398CTCL@32	June 30, 1865	Hatton Creek	Hatton Creek
S4-84826-J	N/A	June 30, 1888	Ahtanum Creek and Hatton Creek	N/A
S4-84827-J	CS4-02398CTCL@31	June 30, 1865	Hatton Creek	Hatton Creek
S4-84828-J	CS4-02398CTCL@25	June 30, 1888	Hatton Creek and Ahtanum Creek	Ahtanum Creek
S4-84829-J	N/A	June 30, 1888	Ahtanum Creek and Hatton Creek	N/A
S4-84858-J	CS4-00863CTCL@1	June 30, 1882	Hatton Creek	Hatton Creek
S4-84867-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84868-J	N/A	June 30, 1878	Bachelor Creek	N/A
S4-84870-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84871-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84872-J	N/A	June 30, 1878	Bachelor Creek	N/A
S4-84873-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84874-J	N/A	June 30, 1878	Bachelor Creek	N/A
S4-84875-J	N/A	June 30, 1878	Bachelor Creek	N/A
S4-84876-J	N/A	June 30, 1878	Bachelor Creek	N/A

Water Right Document No.	Application Change No.	Priority Date	Current Source	Proposed Source
S4-84877-J	CS4-ADJ20VOL3P270	June 30, 1878	Ahtanum Creek	Bachelor Creek
S4-84878-J	CS4-02398sb23@47	June 30, 1878	Bachelor Creek and Hatton Creek	Bachelor Creek
S4-84879-J	CS4-02398sb23@46	June 30, 1878	Bachelor Creek and Hatton Creek	Hatton Creek
S4-84880-J	CS4-02398sb23@45	June 30, 1878	Bachelor Creek and Hatton Creek	Bachelor Creek
S4-84881-J	N/A	June 30, 1878	Bachelor Creek	N/A
S4-84882-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84883-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84884-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-84885-J	N/A	June 30, 1878	Bachelor Creek	N/A
S4-84887-J	CS4-02398CTCL@12	June 30, 1865	Hatton Creek	Hatton Creek
S4-84888-J	N/A	June 30, 1865	Hatton Creek	N/A
S4-84889-J	N/A	June 30, 1866	Hatton Creek	N/A
S4-84890-J	N/A	June 30, 1866	Hatton Creek	N/A
S4-84900-J	CS4-02398CTCL@11	June 30, 1866	Hatton Creek	Hatton Creek
S4-84901-J	CS4-02398CTCL	June 30, 1866	Hatton Creek	Hatton Creek
S4-84902-J	CS4-02398CTCL@10	June 30, 1866	Hatton Creek	Hatton Creek
S4-84903-J	CS4-02398CTCL@7	June 30, 1866	Hatton Creek	Hatton Creek
S4-84904-J	N/A	June 30, 1866	Hatton Creek and Bachelor Creek	N/A
S4-84911-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84912-J	N/A	June 30, 1868	Ahtanum and Hatton Creek	N/A
S4-84914-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84915-J	N/A	June 30, 1868	Hatton Creek	N/A
S4-84919-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84920-J	CS4-02398CTCL@18	June 30, 1868	Bachelor Creek and Hatton Creek	Bachelor Creek
S4-84921-J	CS4-02398CTCL@16	June 30, 1868	Bachelor Creek	Bachelor Creek
S4-84922-J	N/A	June 30, 1868	Hatton Creek	N/A
S4-84925-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84930-J	N/A	June 30, 1868	Ahtanum and Hatton Creek	N/A

Water Right Document No.	Application Change No.	Priority Date	Current Source	Proposed Source
S4-84938-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84940-J	N/A	June 30, 1868	Ahtanum and Hatton Creek	N/A
S4-84942-J	CS4-02398CTCL@20	June 30, 1868	Hatton Creek	Hatton Creek
S4-84943-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84945-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84954-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84969-J	N/A	June 30, 1871	Hatton Creek	N/A
S4-84970-J	CS4-02398sb23@48	June 30, 1871	Bachelor Creek	Bachelor Creek
S4-84971-J	N/A	June 30, 1871	Bachelor Creek and Hatton Creek	N/A
S4-84973-J	N/A	June 30, 1868	Hatton Creek	N/A
S4-84975-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84976-J	N/A	June 30, 1871	Hatton Creek	N/A
S4-84978-J	N/A	June 30, 1868	Bachelor Creek	N/A
S4-84979-J	N/A	June 30, 1871	Bachelor Creek and Hatton Creek	N/A
S4-84980-J	CS4-02398CTCL@24	June 30, 1868	Hatton Creek	Bachelor Creek
S4-84981-J	CS4-02398CTCL@23	June 30, 1868	Hatton Creek	Bachelor Creek
S4-84982-J	N/A	June 30, 1868	Ahtanum and Hatton Creek	N/A
S4-84983-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-84985-J	CS4-02398CTCL@28	June 30, 1871	Bachelor Creek	Bachelor Creek
S4-84986-J	N/A	June 30, 1871	Hatton Creek	N/A
S4-84987-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-84989-J	N/A	June 30, 1865	Hatton Creek and Bachelor Creek	N/A
S4-84997-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-84999-J	N/A	June 30, 1871	Bachelor Creek and Hatton Creek	N/A
S4-85011-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-85012-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-85013-J	N/A	June 30, 1871	Hatton Creek	N/A
S4-85015-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-85016-J	N/A	June 30, 1871	Bachelor Creek	N/A
S4-85018-J	N/A	June 30, 1870	Bachelor Creek	N/A
S4-85019-J	CS4-02398CTCL@17	June 30, 1871	Bachelor Creek	Bachelor Creek

Water Right Document No.	Application Change No.	Priority Date	Current Source	Proposed Source
S4-85020-J	N/A	June 30, 1870	Bachelor Creek	N/A
S4-85021-J	N/A	June 30, 1871	Hatton Creek	N/A
S4-85022-J	N/A	June 30, 1870	Bachelor Creek	N/A
S4-85025-J	CS4-02398CTCL@8	June 30, 1870	Ahtanum Creek and Hatton Creek	Bachelor Creek
S4-85026-J	N/A	June 30, 1870	Hatton Creek and Bachelor Creek	N/A
S4-85032-J	N/A	June 30, 1870	Ahtanum Creek and Hatton Creek	N/A
S4-85033-J	N/A	June 30, 1870	Hatton Creek	N/A
S4-85039-J	N/A	June 30, 1870	Hatton Creek and Bachelor Creek	N/A
S4-85046-J	CS4-02398CTCL@2	June 30, 1870	Hatton Creek	Hatton Creek
S4-85060-J	CS4-02398CTCL@5	June 30, 1870	Bachelor Creek and Hatton Creek	Bachelor Creek
S4-85061-J	CS4-02398CTCL@30	June 30, 1870	Hatton Creek and Bachelor Creek	Groundwater
S4-85064-J	N/A	June 30, 1870	Hatton Creek and Bachelor Creek	N/A
S4-85066-J	N/A	June 30, 1870	Hatton Creek and Bachelor Creek	N/A
S4-85072-J	CS4-02398CTCL@43	June 30, 1865	Hatton Creek	Groundwater
S4-85082-J	N/A	June 30, 1877	Bachelor Creek	N/A
S4-85092-J	CS4-02398CTCL@9	June 30, 1866	Ahtanum Creek and Hatton Creek	Ahtanum Creek
S4-85093-J	CS4-02398CTCL@9	June 30, 1870	Ahtanum Creek and Hatton Creek	Ahtanum Creek
S4-85148-J	N/A	June 30, 1878	Bachelor Creek and Hatton Creek	N/A
S4-85161-J	N/A	June 30, 1882	Hatton Creek	N/A
S4-85164-J	N/A	June 30, 1868	Bachelor Creek	N/A

Bachelor Creek and Hatton Creek are characterized as losing streams within the reach between the Court-confirmed and proposed PODs. The proposed change in POD would result in a downstream move across streams; on a losing reach, there may be less water available at the proposed POD than there was at the Court-confirmed upstream PODs. A move may lead to lower water supply reliability than if the POD remained at the authorized location.

Between the authorized and proposed POD, there are multiple surface water PODs associated with rights relatively junior to the right proposed for change. Addition of a new senior right within the reach could lead to an earlier call on existing junior rights within the reach.

In order to assure that junior users are not adversely impacted by the proposed change, this appropriation may not call on upstream junior water rights.

Approval of this change request under Application for Change No. CS4-02398CTCL@18 will not cause impairment of existing rights.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that this request for a change in POD be approved in the amounts and within the limitations listed below and subject to the provisions listed above.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

Maximum Instantaneous Diversion Rate:
0.31 cubic feet per second¹

Maximum Annual Quantity:
52.46 acre-feet per year¹

Purpose and Period of Use:
Irrigation of 30.5 acres from April 15 through July 10.

Point of Diversion:
SE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 10, Township 12 North, Range 17 E.W.M. (Parcel # 171210-24001)

Place of Use:
The SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 10, T. 12 N., R. 17 E.W.M., except right-of-way for Tampico Road (Parcel #171210-24001). Answer No. 70.

Limitation of Use:
This appropriation may not call on upstream junior water rights.

Tyler Roberts, Report Writer

Date

¹ When water is available in excess of that needed to satisfy all confirmed water rights both on and off the Yakama Reservation and any water needed to satisfy the Yakama Nation's minimum instream flow right for fish and other aquatic life, an additional 0.31 cfs, 18.41 acre-feet per year can be diverted.

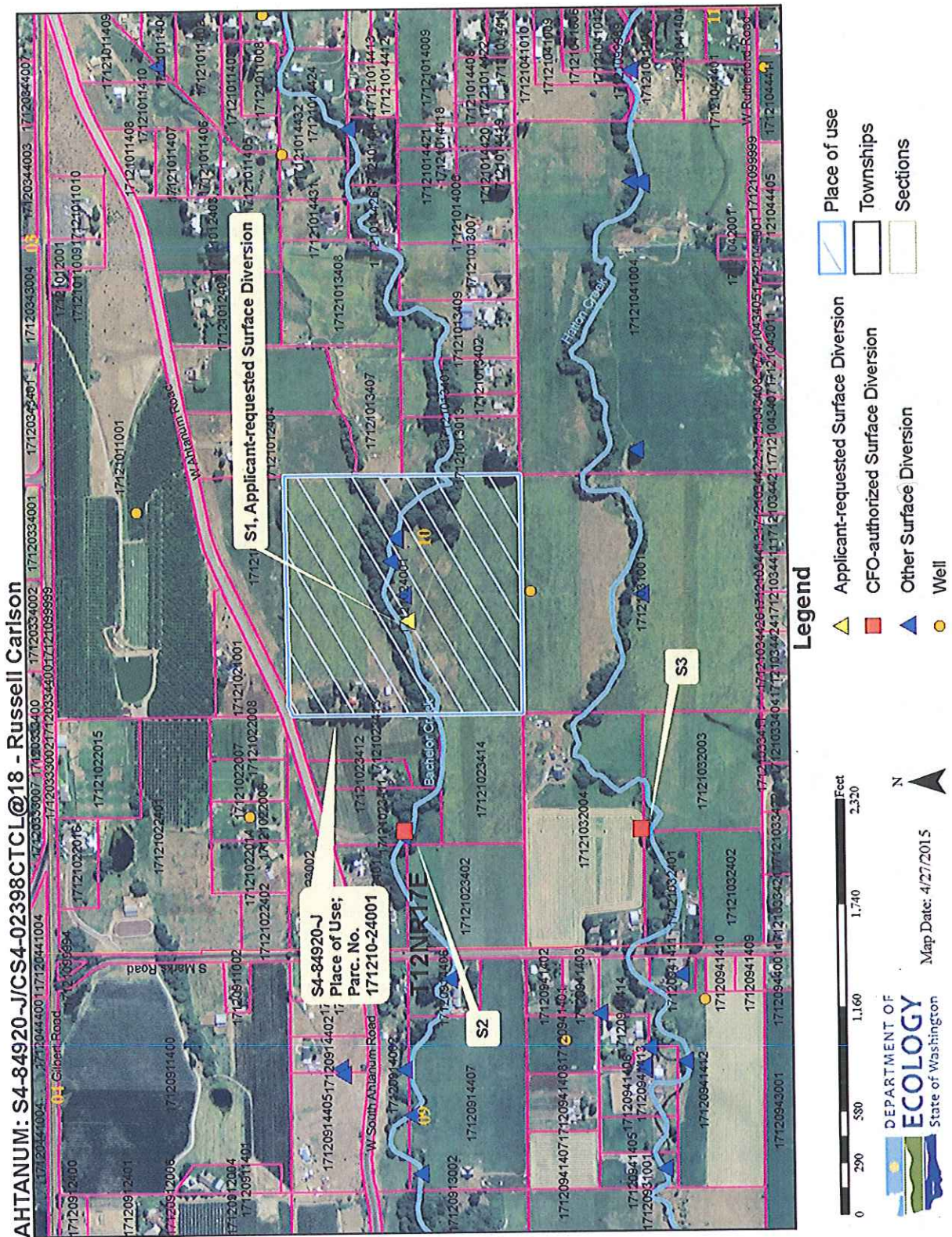
REFERENCES

Foxworthy, B., 1962, "Geology and ground-water resources of the Ahtanum Valley, Yakima County, Washington." USGS Water Supply Paper 1598, 108 p.

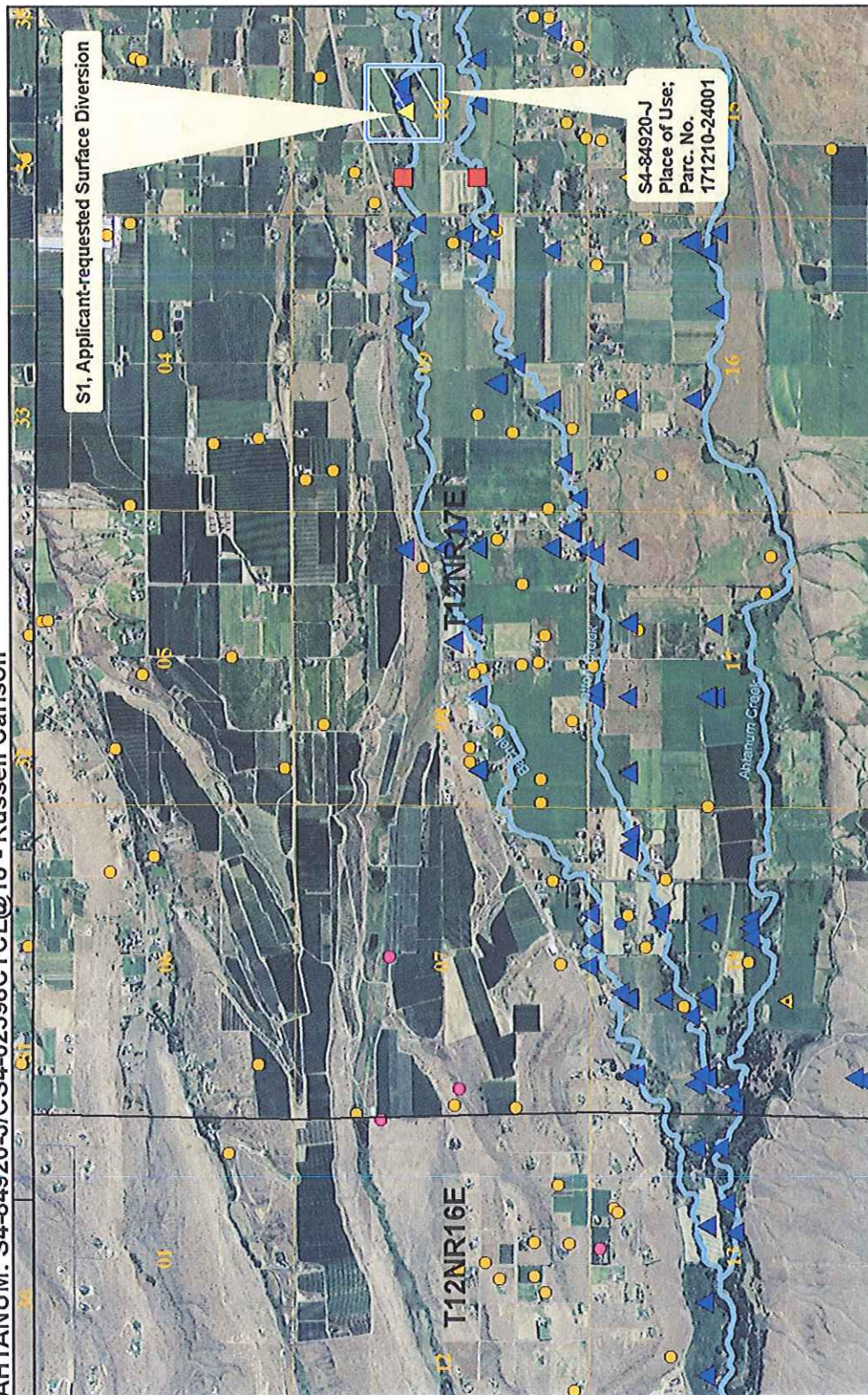
Golder and Associates, Fitch and Marshall Inc., 2004, "Ahtanum Creek Watershed Assessment." Redmond, WA, 587 p.

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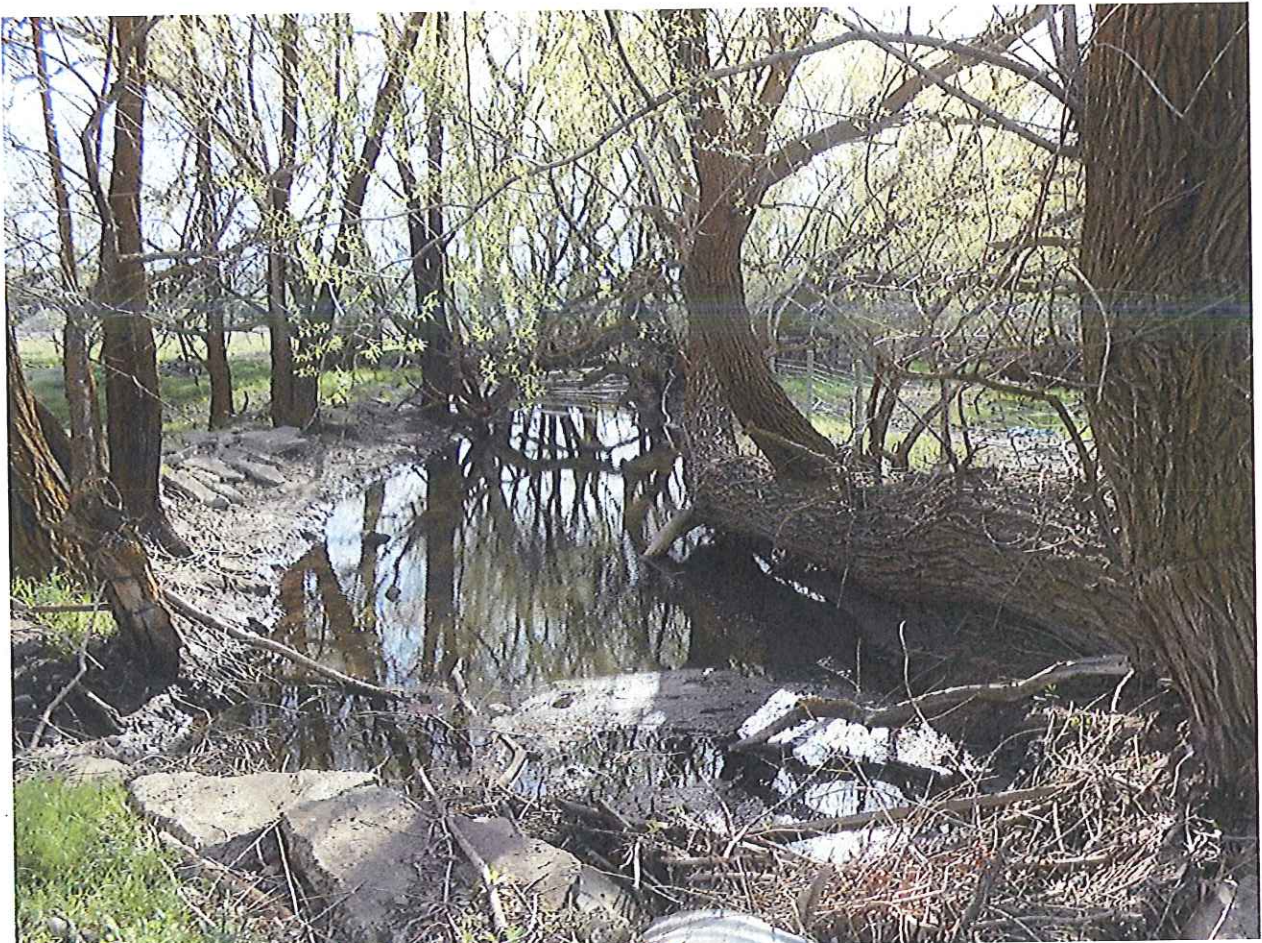
AHTANUM: S4-84920-J/CS4-02398CTCL@18 - Russell Carlson



Legend

- Applicant-requested Surface Diversion
- CFO-authorized Surface Diversion
- Other Surface Diversion
- Well
- Place of use
- Townships
- Sections





Attachment 2A: Bachelor Creek on the Carlson property.



Attachment 2B: Headgate for Carlson water rights CS4-02398CTCL@16, CS4-02398CTCL@17, and CS4-02398CTCL@18.



Attachment 2C: Pump for Carlson water rights CS4-02398CTCL@16, CS4-02398CTCL@17, and CS4-02398CTCL@18.



Attachment 2D: Place of use for Carlson water right CS4-02398CTCL@18.